

REVIEW

Transcatheter Aortic Valve Implantation and Complications Regarding Cardiac Conductance

Alexandra MATACHE¹, Alina CRISTEA², Vlad Alexandru IONESCU³,

Ovidiu PARFENI⁴

¹ Department of Anesthesiology and Intensive Care, "C.C. Iliescu" Institute for Cardiovascular Diseases, Bucharest, Romania

² Department of Internal Medicine, "Sfanta Maria" Clinical Hospital, Bucharest, Romania

³ Department of Gastroenterology, Emergency Clinical Hospital of Bucharest, Romania

⁴ Department of Endocrinology, "Elias" University Emergency Hospital, Bucharest, Romania

Address for correspondence: Alina Cristea, Department of Internal Medicine, "Sfanta Maria" Clinical Hospital, Bucharest, Ion Mihalache 37-39, 011172, Romania, e-mail: alinag.cristea@gmail.com.

Abstract

Degenerative aortic stenosis is an inflammatory process, affecting up to 12% of patients aged over 85 years. Transcatheter aortic valve implantation (TAVI) has become the preferred option for symptomatic, high and intermediate risk patients, including those denied for surgical valve replacement. Aortic stenosis is associated with prolonged atrio-ventricular (AV) conduction time, as well as higher degree of AV conduction disorders. In addition, it was observed that TAVI patients have a higher incidence of conduction abnormalities during the procedure, as well as during the following days, many of them requiring the implantation of a permanent pacemaker. Definitive guidelines for management of the conduction disorders are not yet available, the burden of choosing the best approach being put on each individual clinician.

Keywords: aortic stenosis, transcatheter aortic valve replacement, conduction disorders, left and right bundle branch block, high grade atrio-ventricular block, permanent pacemaker implantation.

Introduction

Degenerative calcific aortic stenosis is a progressive inflammatory process. Severe aortic stenosis (AS) is currently defined by an aortic valve area (AVA) $<1.0 \text{ cm}^2$ and/or a mean transaortic pressure gradient (MPG) $>40 \text{ mm Hg}$ and/or a peak aortic jet velocity (V_{max}) $>4 \text{ m/s}$ [1]. Aortic stenosis is the most frequent valvular heart disease in the

Western world, estimations being that approximately 1-2% of patients aged over 65 years have moderate to severe aortic stenosis. Furthermore, this rate increases up to 12% in patients aged over 85 years [2].

Transcatheter aortic valve implantation (TAVI) is an expanding, catheter-based procedure that allows the implantation of a prosthetic valve, without the requirement of an open-heart surgery for the management of